SOUTH CAROLINA AERONAUTICS COMMISSION
AIRPORT PAVEMENT MANAGEMENT STUDY
Phase II

SCOPE OF WORK

PROJECT DESCRIPTION

The South Carolina Aeronautics Commission (SCAC) is undertaking a study to evaluate the existing pavement conditions and develop a continuing inspection program for general aviation and selective commercial service airports in the state of South Carolina. The pavement management system will provide necessary data, based on visual and geotechnical assessment of pavement condition for planning, maintenance scheduling, material evaluations, and design considerations. The project involves conducting on-site pavement condition surveys to determine the structural integrity and surface conditions. This study is Phase II of a recently completed Phase I PCN study of selective NPIAS airports with allowable aircraft loads exceeding 25,000lb SG. This survey will incorporate information from the previously studied non-destructive testing, ground penetrating radar, and destructive testing report. The pavement management system (PMS) will use procedures outlined in FAA Advisory Circular 150/5380-6B Guidelines and Procedures for Maintenance of Airport Pavements and the current FAA draft advisory circular 150/5380-7B Airport Pavement Management Program using the FAA PAVEAIR web-based pavement management program.

The last pavement management study for collecting Pavement Condition Index (PCI) values was completed in 2002. The purpose of the program was to improve the State's knowledge of pavement conditions at the airports in the State system, to identify needs at individual airports, and to establish maintenance practices and standards to deal with future pavement needs. The program expectations are to continue educated airport sponsor's, state, and federal airport officials concerning the importance of implementing a pavement management plan. The PMS provides information to establish priorities for performing pavement maintenance for asphalt and concrete surfaces.

SCAC is seeking a prime consultant experienced in airfield pavement management as outlined in the Advisory Circulars. The engineering pavement consultant will train state personnel in field evaluation of pavements, and in the use of PAVEAIR. The consultant will work with SCAC staff to expedite pavement inspections on an as needed base, but will perform PCI inspections in the presents of an SCAC staffer at 30 percent of the state public use airports. Additional PCI field evaluations maybe requested as directed by SCAC. An SCAC staffer will engage and interact in all field PCI inspections. The consultant must remain accessible to assist SCAC in the remaining 60 percent of the field inspections. The consultant shall be diverse in the FAA PAVEAIR software understanding the programs functionality including the basic code used to develop the program. Some of the features used in PAVEAIR may not be expedited, and some of the programming matrix may need to be adjusted by a software developer. Used to develop executed, and PAVEAIR will not use to offset for implementation in the PAVAIR of PCI field evaluation. The following scope of work outlines the task for updating and expanding the PMS.

PROJECT SCOPE

The engineering pavement consultant and SCAC staff will attend training by FAA personnel of the Hugh's Technical Center in the use of PAVEAIR. Once training has been completed, the engineering pavement consultant will incorporate the 2002 micropaver results into the PAVEAIR program. Working with SCAC personnel, the pavement history will be updated both in a database file for PAVEAIR but also in a GAO GIS data based file. Network definition maps, photos, historically records, geotechnical reports; and pavement condition surveys shall be accessible in a GIS and AUTOCAD format for each airport. Maps and associated geo data base file will provide maintenance and rehabilitation recommendations, and prepare reports for SCAC and Airport users. A network summary report will be created by the consultant along with an assessment report of each airport depicting the pavement assessment value of the entire pavement network.

Fully implementing PAVEAIR features, the pavement consultant engineer will execute the development of a financial model enabling SCAC to evaluate and prioritize maintenance and repairs (M&R) based on various budget scenarios. The model will annually adjust pavement deteriorating conditions if no M &R is performed and adjust the pavement value if M&R is accomplished. Pavement value reports will consider activity levels, meteorological conditions, and surface specs used by of establishing the pavement design. An easy to use graphic shall represent the pavement condition, and M&R needs at each airport.

NONDISTRUCTIVE TESTING.

NDT means observing and calculating pavement response to a controlled dynamic load, as in the case of the falling-weight deflectometer (FWD), or other physical stimulus such as a mechanical wave. NDT provides a means of evaluating pavements that tends to remove some of the subjective judgment needed in other evaluation procedures. AC 150/5370-11, "Use of Nondestructive Testing Devices in the Evaluation of Airport Pavements", contains guidance on nondestructive testing. Several different NDT procedures are available in addition to that described in AC 150/5370-11. Other procedures may be used when approved by the FAA. The common NDT tools available to assist pavement stiffness is by way of a combination use of : FWD devices, ground penetrating radar (GPR), infrared thermography The pavement consultant engineer can use a combination of these tools to establish the Pavement Condition Number (PCN). The PCN determination will be used as part of the PCI determination and shall be part of the PAVEAIR matrix.

GIS shape files shall be created to support PAVEAIR platform programs, the SCAC web base programs, and the South Carolina Comprehensive Aviation Information Resource System (CAIRS) which is an internal database system. The pavement consultant engineer will provide easy to use instructions for an airport sponsor to executing field data into a web base application which will filter into PAVEAIR. Airport personal will have the ability to keep PAVEAIR data updated of their respected airport by conducting self-inspections on annual bases.

The pavement consultant engineer will train for airport sponsors and other associated representatives on annual bases to maintain airport inventory accuracy. Funding for training will be provided on an annual contract bases, not to exceed three years or as funds are allowed by SCAC.

PROJECT TASKS

The scope of this project includes the following tasks:

Task 1. Project Kick-Off Meeting
Task 2. Systems Inventory & Review
Task 3. Network Definition and Field Drawing Preparation
Task 4. Training in Pavement Evaluation Procedures
Task 5 Collections of Pavement Condition Data and Field Testing
Task 6.Database Establishment
Task 7. Pavement Maintenance Service Customization
Task 8. Data Analysis
Task 9. Maintenance and Rehabilitation Program Development
Task 10. Final Drawing Preparation
Task 11. Data Submittals and Reports Preparation

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM
(Per Subsection D to 49 CFR Part 26)

1. The DBE requirements of 49 CFR Part 26 applies to this Contract.

2. Proposer shall ensure that DBE's have an equal and fair opportunity to participate in this project and if the participation goal is not met, Proposer shall provide evidence of good faith efforts taken per Appendix A of 49 CFR Part 26 to assure maximum DBE participation.

3. DBE GOAL – The DBE Goal for this contract has been determined in conformance 49 CFR Part 26 to be **5.72 percent** of the Contract.

4. All DBE's participating in this project must be certified per Federal Regulation 49 CFR Part 26. Such DBE's are listed in the SCDOT " DBE Certified List" and can be accessed at the following website:

   http://www.scdot.org/doing/dbe_listing.shtml